

PENDING CLAIMS

1. **(Original)** A method for making a block or gradient final (co)polymer comprising a first step of radically polymerizing a mixture of ethylenically unsaturated monomers to an iodine atom-containing intermediate polymer, wherein the iodine atom-containing intermediate polymer comprises at least 50 mole% of methacrylate monomers, in the presence of a radical precursor and an I<sub>2</sub> or an iodine chain transfer agent, followed by a second step of radically polymerizing a mixture of ethylenically unsaturated monomers in the presence of a radical precursor and the iodine atom-containing intermediate polymer of the first step.
2. **(Original)** The method according to claim 1 wherein the mole ratio of the iodine atom-containing intermediate polymers to the radical precursor of the second step is greater than 0.1n, wherein n stands for the number of radicals effectively generated per molecule of radical precursor.
3. **(Original)** The method according to claim 1 wherein the polymerization occurs at a temperature lower than about 130°C
4. **(Original)** The method according to claim 3 wherein the temperature is lower than 110°C.
5. **(Original)** The method according to claim 3 wherein the temperature is lower than 90°C.
6. **(Original)** The method according to claim 3 wherein the temperature is lower than 70°C.

7. **(Original)** The method according to claim 1 wherein the polymerization in the first and second steps are performed in the presence of an epoxide-containing compound.
8. **(Original)** The method according to claim 7 wherein the mole ratio of the epoxide to the iodine atom-containing intermediate polymer is greater than 0.01.
9. **(Original)** The method according to claim 8 wherein the mole ratio of the epoxide to the iodine atom-containing intermediate polymer is greater than 0.05.
10. **(Original)** A method for making a block or gradient final (co)polymer comprising a step of radically polymerizing a mixture of ethylenically unsaturated monomers in the presence of a radical precursor and an iodine atom-containing intermediate polymer or a mixture of iodine atom-containing intermediate polymers, wherein the iodine atom-containing intermediate polymer comprises at least 50 mole% of methacrylate monomers and is obtainable from a polymerization of ethylenically unsaturated monomers.
11. **(Original)** The method according to claim 10 wherein the mole ratio of the iodine atom-containing intermediate polymer to the radical precursor is greater than  $0.1n$ , wherein  $n$  stands for the number of radicals effectively generated per molecule of radical precursor.
12. **(Original)** The method according to claim 10 wherein the temperature during the polymerization step is lower than about 130°C.
13. **(Original)** The method according to claim 12 wherein the temperature is lower than 110°C.

14. **(Original)** The method according to claim 12 wherein the temperature is lower than 90°C.
15. **(Original)** The method according to claim 12 wherein the temperature is lower than 70°C.
16. **(Original)** The method according to claim 10 wherein the polymerization step is performed in the presence of an epoxide-containing compound.
17. **(Original)** The method according to claim 16 wherein the mole ratio of the epoxide to the iodine atom-containing intermediate polymer is greater than 0.01.
18. **(Original)** The method according to claim 16 wherein the mole ratio of the epoxide to the iodine atom-containing intermediate polymer is greater than 0.05.
19. **(Original)** A method according to claim 10 wherein the iodine atom-containing intermediate polymer is obtainable by polymerization of a mixture of ethylenically unsaturated monomers comprising at least 50 mole% of methacrylate monomers in the presence of a radical precursor and an iodine or an iodine chain transfer agent.
20. **(Original)** The method according to claim 1 wherein the mole ratio of the I<sub>2</sub> to the radical precursor of the first step is between 0.05n and 0.5n, wherein n stands for the number of radicals effectively generated per molecule of radical precursor.
21. **(Original)** The method according to claim 1 wherein the iodine chain transfer agent is sulfonyl iodide.

22. **(Original)** The method according to claim 21 wherein the mole ratio of the sulfonyl iodide to the radical precursor of the first step is greater than  $0.1n$ , wherein  $n$  stands for the number of radicals effectively generated per molecule of radical precursor.
23. **(Original)** A method according to claim 1 wherein the iodine atom-containing intermediate polymer has a molecular weight of less than 10,000.
24. **(Original)** A method according to claim 1 further comprising a third step of removing the iodine atom in the final polymer.
25. **(Original)** The method according to claim 24 wherein the iodine atom is removed by nucleophilic reaction, by heating, or by reaction with a radical-generating compound, optionally under reducing conditions.
26. **(Original)** A block or gradient (co)polymer obtainable by the method of claim 1.
27. **(Original)** A film forming composition comprising the block or gradient (co)polymer of claim 26.
28. **(Original)** A coating composition, adhesive or ink formulation comprising the block or gradient (co)polymer of claim 26.
29. **(Original)** An automotive or industrial coating composition comprising the block or gradient (co)polymer of claim 26.
30. **(Original)** A rheology additive, surfactant, dispersant, adhesion promoter or flow improvement additive comprising the block or gradient final (co)polymer of claim 26.
31. **(Original)** A block or gradient (co)polymer obtainable by the method of claim 10

32. **(Original)** A film forming composition comprising the block or gradient (co)polymer of claim 31.
33. **(Original)** A coating composition, adhesive or ink formulation comprising the block or gradient (co)polymer of claim 31.
34. **(Original)** An automotive or industrial coating composition comprising the the block or gradient (co)polymer of claim 31.
35. **(Original)** A rheology additive, surfactant, dispersant, adhesion promoter or flow improvement additive comprising the block or gradient final (co)polymer of claim 31.